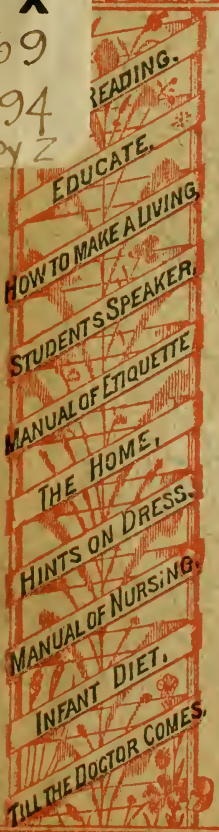
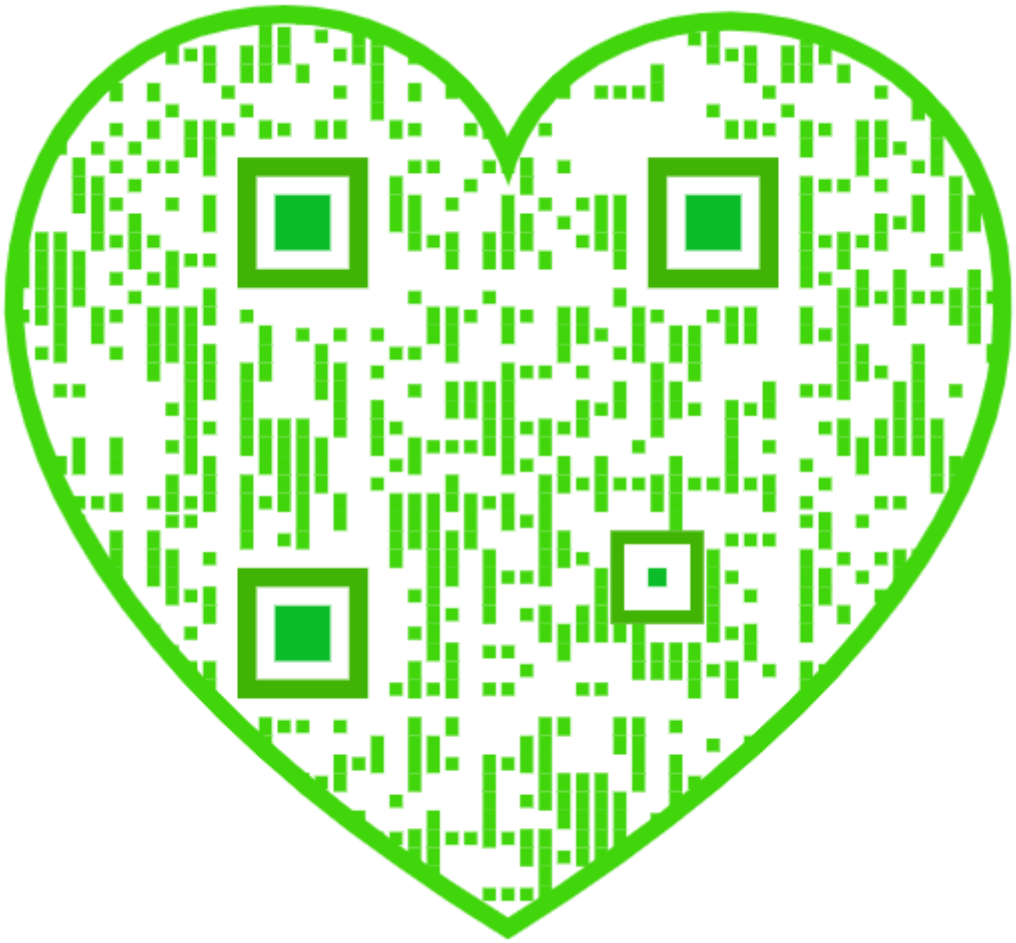
PUTNAM'S HANDY BOOK SERIES,
OF THINGS WORTH KNOWING.

T X
769
D94
copy 2



Bread-Making

NEW YORK
G. P. PUTNAM'S SONS
27 & 29 W. 23D ST.

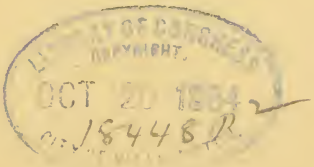


BREAD-MAKING

BY

T. N. T.

Harriet A. Dwight



NEW YORK & LONDON
G. P. PUTNAM'S SONS
The Knickerbocker Press
1884

Copy 2.

TX769
.I94
COPY 2

COPYRIGHT BY
G. P. PUTNAM'S SONS
1884

Press of
G. P. Putnam's Sons
New York

DEDICATION.

To American Women,

ESPECIALLY THOSE WHO HAVE FOUND THEIR HOMES BEYOND THE ROUND OF THE "BAKER'S CART," THIS LITTLE BOOK IS DEDICATED, IN THE HOPE THAT IT MAY HELP TO LIGHTEN, NOT ONLY THE BREAD ON WHICH THEY LIVE, BUT ALSO ONE OF THE BURDENS OF THEIR LIVES.

CONTENTS.

EXTRACT 1

INTRODUCTION 5

DIFFICULTIES IN BREAD-MAKING . . . 9

MIXING, KNEADING, AND MOULDING . . 14

THE OVEN 29

BRICK OVEN 37

SPECIAL CAUTIONS 40

SOUR BREAD 46

YEAST 49

RECEIPT FOR YEAST 52

BISCUITS 54

RECEIPT FOR BISCUITS 58

SALERATUS AND BAKING POWDER . . 60

RECEIPT FOR SODA BISCUITS . . . 63

EXTRACT

FROM A NOTE IN FROUDE'S LIFE OF THOMAS CARLYLE.

"IT was now that the 'bread problem had to be encountered, of which Miss Jewsbury speaks in her 'Recollections of Mrs. Carlyle.' Carlyle could not eat such bread as the Craigenputtock servants could bake for him, or as could be bought at Dumfries, and Mrs. Carlyle had to make it herself. Miss Smith, an accomplished lady, living at Carlisle, has kindly sent me a letter in which the story is characteristically told by Mrs. Carlyle herself. It is dated Jan. 11, 1857,—after an interval of nearly thirty years. Mrs. Carlyle writes: * * * 'It was plainly my duty as a Christian wife to bake at home. So I sent for Cobbett's "Cot-

tage Economy," and fell to work at a loaf of bread. But knowing nothing about the process of fermentation, or the heat of ovens, it came to pass that my loaf got put into the oven at the time myself ought to have been put into bed; and I remained, the only person not asleep, in a house in the middle of a desert. One o'clock struck, and then two, and then three; and still I was sitting in an immense solitude, my whole body aching with weariness, my heart aching with a sense of forlornness and degradation. That I, who had been so petted at home, whose comfort had been studied by everybody in the house, who had never been required to *do* any thing but *cultivate my mind*, should have to pass all those hours of the night in watching *a loaf of bread*—which might n't turn out bread after all! Such thoughts maddened me, till I laid down my head on the table and sobbed aloud. It was

then that somehow the idea of Benvenuto Cellini, sitting up all night watching his Perseus in the furnace, came into my head, and suddenly I asked myself: "After all, in the sight of the Upper Powers, what is the mighty difference between a statue of Perseus and a loaf of bread, so that each be the thing one's hand has found to do?" The man's determined will, his energy, his patience, his resource were the really admirable things of which his statue of Perseus was the mere chance expression. If he had been a woman, living at Craigenputtock, with a dyspeptic husband, sixteen miles from a baker, and he a bad one, all these same qualities would have come out, more fitly, in a *good* loaf of bread.'"

INTRODUCTION.

THE petition "Give us this day our daily bread" is the first request for material good, in the model of prayer given to man. In it bread stands for all that supports the life of man. It is the most important of human food. The petition is not "Give us good bread." If it were, the answer of Providence might be: "The wheat is provided; it is your duty to make from it bread, and good bread." In this, as in all the provision for human needs, it is left as a study and an exercise of human intelligence to find the very best mode of using the materials given to us. Men and women have learned to make ten thousand things with marvellous skill and exactness. All the products of iron, of

wood, of clay, of wool, and of cotton are wrought into numberless forms of usefulness and beauty, with the exactness and multiplied power of machinery, but bread, the home product, is still an experiment. Even the bread of the professional baker has been, until lately, often a daily failure; unequal in different countries and sections, but nowhere uniformly the best possible result of the wheat.

Before the "Centennial Exposition," at Philadelphia and the introduction of Vienna bread, a large proportion of the baker's bread sold in New York was mixed with alum and other chemicals, and was a light, chaffy, yeasty-smellign substance. It would have been worth all that the "Exposition" cost to gain the model of perfect yeast and perfect bread that was there shown. It raised the standard of the manufacture of bread by bakers, and faultless bread is now a daily comfort in many hotels and

restaurants, and many private tables in our cities. But when citizens go to the country they find the same disappointing experiment going on in very many places; the same sour, or heavy, or dyspeptic bread, to mar the pleasure of the change, and to fret the relations of boarder and host. The reform that has been made among the bakers is still waiting to be made at home. If the baking of household bread can cease to be a matter of oral tradition, and the measures of quantity, and time, and heat, to be a matter of guess, a vast addition will have been made to general health and comfort.

Difficulties in Bread-Making.

A LEARNED Professor once said to his hostess, when seated at the table: "Is it really such a *very* hard thing to have good home-made bread?"

The Professor was familiar with knowledge, science, and art in various forms, but the vision of a thoroughly good piece of bread seemed to bewilder his mind. What answer the Professor received does not appear; but if the same question were put to a score of housekeepers they would probably, almost with one voice, say: "Oh, yes, it is a very hard thing to have good home-made bread." If asked why it is so hard, perhaps they could not tell; but

doubtless the reason is that those upon whom they depend to make their bread often know so little about the subject, and they themselves so much less. It is very common for competent housekeepers and for skilful cooks, when asked how they arrive at certain good results, to ignore all rules and affirm that "judgment and experience" are their only guides. This is very well for those who have judgment, and through knowledge and practice have gained experience, but unfortunately this tradition has so passed into a proverb that the same position of following no rule is constantly taken by those who have neither knowledge, judgment, nor experience. Alas, then, for their mixtures, or, rather, for those who must depend upon their mixtures. As this matter of bread-making is a difficult and troublesome business, it is not strange that housekeepers shrink from meeting it, and perhaps she was a

wise matron who counselled her young friend: "Keep away from your flour barrel."

No apology then need be offered for printing hints on bread-making, as long as so much poor bread is put upon our tables, and housekeepers have so much trouble in teaching this important and simple art,—simple in one view, but very difficult in another. Flour and water, with a little salt, are mixed, and yeast is added, fermentation follows, and when the fermentation has expanded the dough to the right degree, or, in common speech, when it is "enough raised," or "light enough," the dough is made into loaves and put into pans for baking; these loaves must repeat the process of fermentation, expansion, or rising, and, at the right moment, are to be put into an oven, at the right heat for baking. This is very simple. The important points to understand in making bread, are just how much yeast to use for a given

quantity of flour and water, just when the dough and the loaves are at the proper lightness, and just how hot the oven should be for baking.

The points of difficulty are in the fact that dough is exceedingly susceptible to changes of temperature, that yeast is not always the same in quality, and that there is no invariable test, like the thermometer, by which to regulate the oven.

Dough will rise much faster in warm weather or in a warm place than in cool weather or in a cool place. Good, strong yeast will do its work faster than poor; nor will so much be required. These facts prove that while minute rules and directions can be given about bread-making, unvarying rules and directions, to apply on all occasions and under all circumstances, cannot be given. Close observation, careful perception, and practice can alone sup-

ply the want of unvarying rules in this matter. The making of good home-made bread seems almost one of the lost arts; and yet any person of very ordinary capacity, who really wants and means to learn this accomplishment, can do so. Of course, in first attempts there will be some mistakes and failures, but under good instruction, patience and perseverance, with attentive observation, will be successful. To an intelligent house-keeper all will soon be very plain and simple. The greatest difficulty in the whole matter of bread-making is the attempt to teach so nice and delicate an operation. In careful and skilful hands bread-making is as certain as any other chemical process. In careless and unskilful hands it fails as often as chemical experiments would if left to be performed by those ignorant of chemical laws.

MIXING, KNEADING, AND MOULDING.

To make good bread, good flour, good yeast, and an oven capable of being properly heated, are required. There must be on the part of the baker intelligent understanding of the range, or stove; as to how the fire should be made, how the heat is conducted to the oven, how the dampers are managed, how the flues are cleaned, and before attempting to make bread, a certainty that the range is well cleaned, and the oven in good order. When bread and biscuits are to be made constantly, several articles are required that should be exclusively used for this purpose, viz., a bread-board and a rolling-pin, a sieve and a bread-pan, and a second pan into which to sift the

flour. If convenient, it is well to have a smaller vessel in which to mix the sponge (fig. 1), but this is not indispensable, as it may be mixed in the bread-pan.

By always using the same pan, and by

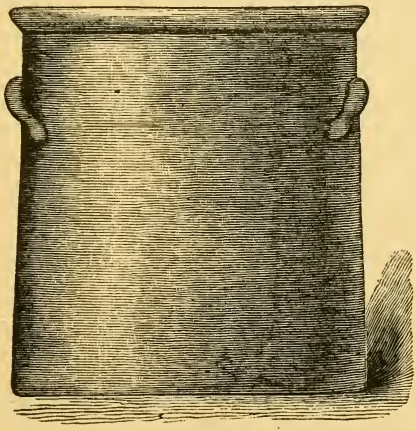


FIG. 1.

always making the same quantity of bread, it is much easier to become familiar with the appearances which are to indicate the different steps in the process. Thus a great deal of

trouble is saved, and one escapes a great many unsuccessful experiments.

The receipt here given is made on a basis of six quarts of flour, and three pints of water. A bread-pan adapted to it will hold about fourteen quarts, and the smaller vessel for the sponge should hold about six quarts. The article now generally used as a bread-pan is a large tin pan, and it is very good for the purpose. Formerly wooden ones were much used; they are not desirable, for even although it is supposed that they are carefully washed and dried, they sometimes give an unpleasant taste to the bread, which no doubt comes from their being used when damp. A stone pan is the best kind; such an one, however, is heavy to handle and difficult to procure.

In giving the following receipt it is not intended to imply that this precise mode is the only one in which good bread can be made.

There may be slight modifications of the plan, but the principle is always the same. Some persons make no sponge, but prefer to use all the flour and water at the first mixing; and make and knead the dough at once, leaving it to rise during the night. Some omit the potatoes; properly used they make the bread light and tender.

Bread can be, and often is, under some conditions of yeast and weather, made and baked on the same day, and in warm climates it always should be; but the most convenient plan for ordinary use, is to mix it the evening before baking.

Some flour absorbs rather more, and some rather less, water than is given here as the proportionate quantity for use; but the difference is not much, and this must be learned by the appearance and feeling of the dough when kneading it. The following proportions are suited to the latitude of New York State;

6 quarts of flour (measured before sifting it).

3 pints tepid water.

6 or 8 boiled potatoes.

1 table-spoonful salt.

1 yeast cake in summer, or

1 gill of yeast in summer.

If the yeast cakes or yeast are powerful, in our hottest summer weather it may be well to use a *little* less; or it may be found desirable to change the plan, and instead of mixing the bread overnight, to mix it early on the morning of the day it is to be baked.

As the weather becomes cooler, the amount of yeast should be increased gradually, until, in our very cold winter weather, from two to three cakes will be required, or from two to three gills of yeast, to make the bread light—possibly even more.

Bread is to be mixed "overnight," as it is said—that is, the evening before it is to be

baked. About an hour before the bread is to be mixed, say at eight o'clock in the evening, put six or eight good-sized potatoes on to boil as if for ordinary use, and at about the same time put the yeast cakes (broken up) into half a pint of tepid water to soak. Sift the flour (six quarts), and separate two quarts for present use. When the potatoes are tender, pour off the water, throw them into the vessel in which the sponge is to be mixed, measure the water (three pints), and adjust the temperature. It should be tepid (90°). Now, while the potatoes are still hot, tender, and mealy, mash them quickly, taking out any lumps there may be, add a little flour with a spoon, and stir; then a little water, and stir; and so go on, mixing the flour and the water with the potatoes, gradually, until the two quarts of flour, separated for present use, and the three pints of water are used, and you have a mixture

like very thick paste; stir in the salt, a tablespoonful; see that the yeast cakes that were put to soak are quite soft, mash them entirely, and add them to the mixture, stirring them thoroughly in. This is the sponge; cover it with a cloth, and set it in a warm (not hot) place to rise during the night.

In the morning, about six or seven oclock, the sponge should have risen to the top of the jar (if of the size described), or within an inch of it, and should be covered with fine white bubbles, much like the foam on beer, and be still in an active state of fermentation; if it is not in this condition it is not ready to use, and may need to stand by the fire a while longer. Pour this sponge into the bread-pan, add gradually the remainder of the sifted flour, at first stirring, and then kneading, for fifteen or twenty minutes, until the mass feels light and dry to the hands, and does not stick to them,

as it did in the early process of kneading. This is the dough; cover it with a cloth, and set it by the fire or in a warm place to rise. It should not be in too hot a place; but as it is not to stand all night, as the sponge did, it can be in a warmer place than would have been proper for that. The best temperature is from 70° to 80°. It will take probably from three to six hours, varying according to the temperature and the strength of the yeast, for this dough to rise. When the dough has risen, or expanded, to between two or three times its original bulk, and cracks on the top, it is ready to make into loaves, and put into the baking-pans. If it was made in a bread-pan of the size and shape described, the illustration gives its appearance when ready to make into loaves. (Fig. 2.)

Before *touching* the dough, however, look at the fire, to see whether it requires attention,

and if it does, prepare it now, putting on coal enough to keep it in proper condition during the baking of the bread, for it is not well to add coal while the bread is in the oven. Also now

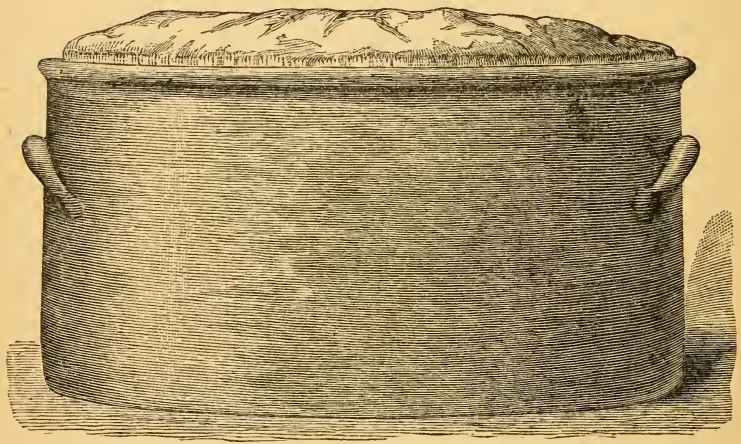


FIG. 2.

butter the pans in which the bread is to be baked; for the dough must not be touched, not even lifted to the table, until the moment that it is to be attended to. These prepara-

tions being made, scatter a little flour upon the bread-board so that the dough will not stick to it; empty the dough out of the bread-pan on to the board, and turn over the whole mass for a minute. This amount of dough will make five good-sized loaves, or four good-sized loaves and two pans of biscuits, say two or three dozen. Divide the dough into five equal

FIG. 3.

parts. It does not now require much kneading; in fact, the less handling the loaves have the better. Each loaf should be gently kneaded, or rather moulded, and when brought into good shape be put into the baking-pan.

In this process as little flour should be used on the hands as possible, only just as much as will keep the dough from sticking to the hands

and board, while shaping the loaves. Set the loaves near the fire to rise, and notice the time. They will require to stand from half an hour to an hour, before they will be ready for baking. The appearance of each loaf, and not the time, must decide whether it is light enough, although it is always best to note the time as

FIG. 4.

a partial guide. Each loaf should rise to about twice its size when first put into the pan, and when after such rising, it begins to crack a little on the top, sometimes even before it cracks, it is ready to be put into the oven.

Close the oven door immediately on putting the bread in, and be sure that no part of the range is open during the baking; neither

should the door be opened too soon, nor too often, to look at the bread. About ten minutes after putting in the first loaf, or loaves, it is best to look into the oven to see how the bread is doing. By this time the loaves should have risen about one third more, if the oven is at the right heat. If the loaves were not all ready to go in at first, the others will probably be ready now, and this moment should be taken to avoid opening the oven door again too soon. This matter of opening the door when the bread is in the oven must be done with all possible despatch, so as not to cool the oven, by the admission of outer air. It will be best to look at them once or twice again while the loaves are in the oven, as they may require changing.

If the loaves begin to brown on the top too quickly, put a piece of thick brown paper over them ; if they begin to brown quickly at one

end, and not at the other, change their position; or if the loaf at the back of the oven bakes faster than the one at the front, exchange their places; but always remember to make these changes as quickly as possible. About an hour will be the time required for baking loaves of the size this receipt describes.

When the loaves are taken from the oven they should be placed upon an unpainted wooden table, standing so that the air can pass back of them. The bread should not be put into the bread-box or jar until it is quite cold. If it is at all warm when shut in a box the steam will condense in the box and make the bread damp, and it will not keep well, but will soon become mouldy. If a part of the dough is to be made into biscuits, they can be made very nice and tender by adding some butter. In this case make but four loaves, and lay aside one fifth of the dough until the loaves are in

the pans by the fire. To the dough of which the biscuits are to be made, add a piece of butter of the size of an egg, and knead it thoroughly in. It will take three or four minutes to work the butter thoroughly and evenly through this dough and to bring it again to a dry condition, and it will be necessary to use a very little more flour on the hands and on the board, than when moulding the loaves. Roll out the dough to the thinness of half an inch; cut out the biscuits, put them into the baking-pans, and set them aside to rise. The biscuits, having butter in them, will take longer than the loaves did to rise; they should stand till they are about twice as thick as they were when first cut; it will take from an hour to an hour and a half before they are light enough. They will bake in thirty or forty minutes, and when taken out of the oven should be treated in the same way that the bread was. Baking will add about

a third to their thickness if the oven is at the right heat.

If there is not room for the biscuits in the oven when the bread is in, and they have to wait till it is taken out, they should not be placed by the fire at first, but away from it, and only brought near a little while before going into the oven.

If the fire is not sufficient to keep the oven at the right heat for baking the biscuits, it should be renewed between taking the bread out of the oven and putting the biscuits in.

THE OVEN.

When bread has gone successfully through each process to the time of baking, every thing depends upon the right condition of the oven. The best bread may be injured or spoiled by a mistake here.

Any construction, arrangement, or incidental management, by means of which a current of cool air is caused to pass around the oven, or by means of which the heated air is prevented passing around it, will damage the condition of the oven, and thereby injure the bread.

Sometimes, when a new range or stove is put up, and one does not understand the way in which it is managed, this trouble may occur; or in an old range, a damper may be out of

order and not work properly, or the slide of the sheet-iron partition above the range may be open, or a cook who does not understand these matters, may take off a cover from the range, and thus cool the oven. In all ranges and stoves, the general principle of heating the ovens by hot air passing around them, is the same; there are, however, variations in construction, and therefore one must understand the way in which the particular range in use is managed, how the flues are cleaned, how the heat is conducted to the oven, how the heat is regulated, and how large a fire is required to give the proper amount of heat.

In some ranges the ovens are low, and the heating tubes are under them, as well as at the sides. In such cases it is very important to clean out the ashes and dead coals, which fall from time to time into the spaces and tubes as they would tend to cool the lower part of the

oven, and it is very important to have a greater heat at the bottom of the oven than at the top. This thorough cleaning should in some ranges be done every two weeks.

On the morning of a baking day the grate should be emptied of all cinders, and a fresh fire made, which must not be allowed at any time to get so low as to endanger its going out. When it needs renewing, the ashes should be shaken out from below, before adding coal. The draughts must be opened (ordinarily by pulling out dampers) to start the fire, and closed as soon as it burns well, by pushing the dampers in. In many ranges these same dampers have to be closed to heat the oven, so that it is indispensable to close them a long-enough time before baking to heat the oven ; say from fifteen minutes to half an hour.

Chemists place the baking heat of the oven

at about 400°, but until there is an oven thermometer this information is of no practical use. There is no absolute guide by which to judge whether the oven heat is right. One test is that when flour will brown on being thrown into the bottom of the oven, it is at the right heat, but that if the flour chars, or becomes black, it is too hot. Another test is that if the hand can be held in the oven, just the time it takes to count twenty moderately, it is hot enough, but that if thirty can be counted moderately, it is not hot enough.

In this matter, all bakers must learn for themselves by observation and practice. The feeling to a practised hand is a very great help in deciding upon the condition of the oven; but the best way at first seems to be to try by experiment, and then, having found how much fire and what management gives the best result, to follow always in the same way. This

can easily be done by making in the morning a fire of a given size, and renewing it daily at the same hour, adding always the same quantity of coal.

It cannot be too much insisted on that every part of the range must be closed while the bread is in the oven. All other cooking arrangements must be made subordinate to baking. If the bread has been put into the oven just before lunch-time, and a steak is to be broiled, it must be done without taking off the covers from the range; if they are taken off, cool air will pass into the oven, the bread will probably be spoiled, and perhaps no one will understand why.

If the oven is quite too cool when the bread is put into it, the bread will not rise in it, and will be a miserable solid, soggy mass. If the oven is quite too hot when the bread is put into it, the crust will be formed too soon on

the top of the loaves, and this will prevent their rising properly. This premature hardening or encrusting of the loaves will also prevent the moisture passing out of them, and they will be solid and moist in the middle, and will look inside as if they were slack-baked. The fault of too hot or too cool an oven will injure the bread in a greater or less degree in the same way. There should be, as before said, greater heat at the bottom of the oven than at the top, so that the gas and moisture can be thoroughly driven through the loaf by the lower heat, before any process of hardening has begun on the top of the loaf.

To know how best to secure this condition, the range in use must be understood. Often injury to loaves from too much heat at the top can be saved by putting a paper over them. Probably bread is much oftener damaged by too hot than by too cool an oven, without its

being known, because the effect on the middle of the loaf is, in each case, so much the same.

If the oven is too hot when the bread is very nearly ready to be put in, open the oven door for a little while before putting the bread in, and this will cool it.

One loaf will not require as hot an oven as four or five, if put in at once, for the loaves themselves will somewhat reduce the temperature of the oven.

Occasionally one finds in the country a stove in which wood instead of coal is used. It is not as easy in this case to keep the heat of the oven at the uniform temperature, which is important. As the wood burns out quickly, the fire must be kept up by adding more wood, while the bread is in the oven. This must be done very carefully, so as not to increase the heat of the oven so suddenly as to burn the bread. With careful attention a little practice

will prove how soon and how often wood will need to be added to the fire.

Some years ago what is called a reflector was much used in baking before an open fire; perhaps they are still found in some parts of the country. It consists of a standard to hold the baking-pans with a closely fitting tin cover around three sides, open only at the front, which is put for baking close before the fire. In using such a baker the biscuits should go through precisely the same process of preparation as for baking in an oven. When they are ready for baking they should be placed in the baker, which should be set before the fire and covered at once. The cover may be lifted back a moment, after a little time, to look at the biscuits, and if they are baking too quickly they may be moved a little farther from the fire. In this, as in all other modes of baking, a little practice will be required.

BRICK OVEN.

There is not as much difficulty in baking in an old-fashioned brick oven as there is in baking in the oven of a range or stove, and perhaps its being so much less in use, now, is one reason that so much more poor bread is found in the country than formerly. A brick oven, properly heated, and closed promptly after the bread is put in, has no outside element of danger, whereas a range or a stove being used for other purposes than baking, may be thoughtlessly opened, or the continued fire which heats the oven may be badly managed.

The first point to attend to before using a brick oven is to know that it is well built and

in good working order, and the next to be sure that there is an abundant supply of good, dry wood on hand for heating it. If wood has been cut, and carelessly left uncovered, and a rain of two or three days has soaked it, it will be quite impossible to make a brisk fire that will heat the oven in time for bread that is already in the pans for baking. The wood should be selected of equal size, and cut of even length, and then a few experiments will prove how many sticks are required to make enough fire to heat the oven.

The wood is allowed to burn all away, till only bright coals and hot ashes remain; these are put at the back and sides of the oven, or if their remaining in it would make it too hot, are all to be taken out, before the bread is put in. Bread generally goes into the oven first, and cake after the bread is taken out. If a little more heat is required, some bright coals

can be left just within the oven door before it is closed. Like the oven door of a range or a stove, it must not be opened too soon, nor too often. The same tests that were given to judge of the heat of a range oven, apply here. Perhaps a change of color that the heat gives to the bricks may help in judging of the right heat.

SPECIAL CAUTIONS.

A mistake in any part of the process of bread-making may be damaging to the bread. It must always be remembered that the rising of bread depends on fermentation, and that fermentation goes on more rapidly in warm weather than in cool weather, and that therefore the amount required of yeast of the same quality in a given quantity of bread, depends upon the weather, or the temperature of the room in which the sponge and dough are kept. Some houses are kept up to the temperature of almost summer heat through the winter, and in such case the bread can be uniformly made with the same amount of yeast in winter as in summer. Where, however, the change

of weather comes into the house, a gradual increase of yeast is needful in winter. The best bread is made with the smallest amount of yeast that will make it fully light. The leaven should be literally *hid* in the measure of flour, so that it is only discovered by its effects. The sponge, dough, and loaves will also probably rise in a shorter time in summer than in winter, notwithstanding the change in the amount of yeast used. Chemistry proves that from 70° to 86° is the temperature "for fermentation to go on rapidly."* Consequently in winter the dough and loaves must be placed near the fire, and in summer generally away from it. A chilling draught should not be allowed to strike them. "At 45° fermentation goes on slowly, at 32° there is no action."* A sponge which is to stand all night does not need to be in a temperature of 70° all the time.

* Youman's "Household Science."

The temperature of a room that has been at 70° during the day, may fall to 60° or even to 50° during the night without injury, and perhaps with advantage to the sponge, by keeping it from rising too soon. As, however, the dough and loaves can be watched, it is safe, and best for them to be kept in a warmer place, but not over 86°, as this, chemistry proves, is a point at which they are likely to become sour.

The water with which the sponge is mixed should be about tepid, 90°; if cold it retards the rising of the sponge; if hot it scalds the flour.

The potatoes must be freshly boiled, light, mealy, and be quickly handled; they must be used while hot and tender; cold ones will do no good.

The bread must not stand too long in either stage, sponge, dough, or loaves.

If the sponge stands after it has reached its maximum of lightness, it will have less capacity to raise the dough; it will rise a second time, but its vigor is exhausted. In the best condition of a well-made light sponge it is covered with fine white bubbles; when it stands too long, falls and rises a second time, the bubbles are larger, and the sponge darker colored. If the dough is allowed to stand after it has expanded to its full capacity, it will fall, and it will not have the power to raise the loaves properly; it will also be darker in color. If the loaves stand too long in the pans, they will, after rising, fall, and become dark, and the fine porous texture of the bread when baked will be changed to a coarse one, much like the difference between a fine, soft, light-colored sponge and a common, coarse, dark one.

These changes show plainly, that in *each part of bread-making the next step must be taken*

before the yeast has exhausted its force, so that the rising process may go on properly in every stage.

It is a very common mistake to let the loaves stand too long in the pans before putting them into the oven. In very warm weather, half an hour may be long enough, but the loaves are seldom ready in less than three-quarters of an hour, and rarely, if ever, are they improved even in winter by standing more than an hour.

It is much easier to have good bread when making it constantly than occasionally. In the former case the changes in temperature come so gradually that it is easy to diminish, or increase gradually, the amount of yeast; and one also becomes familiar with all the points to be attended to, and with the oven. On the other hand, a very good baker when quite out of practice may make a sad failure; or one in practice, when trying new yeast, may be be-

trayed into a batch of sour bread, or with a new oven may be entrapped into a batch of burnt bread.

When an intelligent and skilful person is in constant practice, using the same materials and the same oven, all of good quality, it is beautiful to see how this much-abused domestic art proves itself an exact science, by giving not only day after day, but month after month, and year after year, successful and uniform results.

SOUR BREAD.

Sour bread is such a common evil that a special chapter should be given to it, even at the risk of repetition.

If the flour is sour, the bread will be so too, of course.

Sour bread follows also as a consequence of sour yeast, and probably more bread is sour from this cause than from any other cause. Very often, however, good, sweet flour, and good, sweet yeast, are made into sour bread by wrong management. Precisely how, and when, and why the chemical change of the formation of acid in dough takes place, must be left to chemists to describe; but it is of great practical use to learn from them that a higher tempera-

ture than 86° is liable to cause dough to sour. This chemical secret may explain a great deal of sour bread, especially in summer, and shows that then the dough should generally be put away from the fire instead of by it.

If there is not enough yeast used, the dough may become sour from having to stand too long to rise; in this case the bread will be solid and dark, and perhaps heavy. With the right quantity of yeast, if the bread is left to stand too long, especially in warm weather, the bread may become sour. Often chronic cases of sour bread come from a repetition of the same mistake in making the bread, but probably sour yeast, as before said, is the most frequent cause. Often there is a succession of sourness, for new yeast made with sour yeast will perpetuate the trouble. Some persons can readily distinguish the sour odor of spoiled, from the pungent odor of sweet yeast; many,

however, cannot, and therefore do not know that their yeast was sour until they find their bread so. To such persons the only safety in the matter is to discover after a few experiments how many days they can trust their yeast, and never use it beyond that time.

YEAST.

Bread can be raised with yeast, yeast cakes, or compressed yeast. The receipt for yeast given below is an excellent one. In making yeast, hops should be boiled in the water (and then strained out) for there is a preserving quality in hops that keeps the yeast from becoming sour in a day or two as it would without them. Some persons prefer what is called "potato yeast," which is made of flour and mashed potatoes, mixed with boiling water instead of hop water, under the idea that yeast made with hops gives a bitter taste to bread. But this "potato yeast" becomes sour very quickly, and is only fit to use on the day that it is made; and even then does not give the

best kind of bread. When bread is bitter from the yeast it is probably because the hops were boiled too long, or because too many were used. The hops used in making yeast should be dried or pressed, not fresh hops. Dried hops should not be used when they have been kept more than a year, as they lose their strength. Pressed hops keep their strength longer, but must be bought with great care, as it is said that sometimes old hops are pressed. Hops should be kept in a dry place.

Baker's yeast is often sour, and when depending upon it, it is very desirable to learn where the best can be found in one's neighborhood, and always send for the same. As bakers generally make yeast for immediate use, it is not safe to keep it over for future use.

Yeast cakes when good, are very convenient, as they save all trouble of making or send-

ing for yeast ; such as are well made, entirely sweet and fresh, will keep good for two months, perhaps longer. They should be kept in a tin box, and in a dry place. Some persons do not like to use yeast cakes, thinking that they give their odor and taste to the bread. Probably when this taste is perceived in the bread, it comes from some imperfection in making it. When properly used it is not likely that any one can perceive a difference between bread made with yeast cakes and that made with yeast.

Compressed yeast has an advantage over liquid yeast, or yeast cakes in that (when it is fresh) it makes light, tender, bread without potatoes. When using it, however, one needs to be very careful to know that it is quite fresh, as it will keep sweet but a few days, especially in summer.

Bread made with compressed yeast should usually be made and baked on the same day.

RECEIPT FOR YEAST.

Pour onto an ounce of dried hops (a handful) three pints of boiling water, and let them boil ten minutes; then strain the water boiling hot onto a pint and a half of flour, enough to make a mixture as thick as a batter for griddle cakes. Have ready mashed potato very soft, and fine,—a pint; add it to the mixture and stir it well. When this mixture is lukewarm add half a teacup of brown sugar, a heaping teaspoonful of salt, half a tablespoonful of ginger, and a gill of yeast, and mix all thoroughly. This mixture should be made in a vessel considerably more than large enough to hold it, as its bulk will increase by fermentation (rising); cover it, and set it in a warm, but not hot,

place to rise. Stir it down occasionally as it ferments, and when it has ceased its active rising, put it into a glass jar or stone crock, cover it closely, and set it in a cool (not damp) place. The jar or crock should not be filled to the brim, as this yeast is very active, and, by continued fermentation, might throw out the cork, or burst the jar, and be half lost.

It is best not to put it into the jar till thirty hours after mixing it. This yeast, if kept covered and in a cool, dry place, will keep sweet for three weeks, even in summer.

BISCUITS.

Sometimes biscuits are wanted when there is no bread in preparation. In such case they can be even nicer and more delicate when made by themselves, and mixed with milk instead of water, than when made from a part of the bread dough. Every rule that has been given with regard to the making of bread applies in the making of biscuits; the only variations being that, as they are generally to be ready in a shorter time than bread is required, and as they are expected to be very light and tender, more milk, and yeast proportionately, may be used than in mixing bread; as also the time which is convenient for the sponge and the dough to stand being shorter (than when

making bread), they may be kept in a warmer place, but not in a temperature over 86°.

In the milk to be used (which should be tepid), a piece of butter the size of a small egg, or half the size of a large one, should be melted, or softened; or the butter can be added to the dough when the biscuits are moulded to put into the baking-pan.

If the biscuits are to be for breakfast, it is well to mix the sponge as early as half-past five or six o'clock the evening before; the potatoes having been boiled in proper time for use, and the yeast cake having been duly put to soak. The sponge should be covered with a cloth and put in a temperature from 70° to 86°.

By about nine or ten o'clock in the evening the sponge will be ready to add the remainder of the flour, when the dough should be gently kneaded for ten or twelve minutes, covered

with a cloth, and left to stand for the night. In the morning early, as soon as the kitchen fire is made, and the tea-kettle filled, and before time is taken for any other purpose, the biscuits should be moulded and put into the baking-pans to stand and rise again, before they are put into the oven. The dough may be rolled out on the board and the biscuits cut out or they may be moulded in the hands and shaped as preferred. The more gently the biscuits are handled and the less flour that is used on the hands and the board, the lighter and more delicate they will be. From thirty to forty minutes will be required to bake the biscuits, after they shall have stood by the fire to rise for from three quarters of an hour to an hour.

If the biscuits are to be prepared for tea, the sponge should be mixed in the morning by, or as near seven o'clock as convenient.

By twelve or one o'clock the sponge will probably be ready to make the dough, and about an hour and a half before tea-time the biscuits should be cut or moulded to put into the baking-pans to stand again for rising before they are baked.

RECEIPT FOR BISCUITS.

Three pints sifted flour.

One pint of milk, tepid.

Three or four boiled potatoes.

A piece of butter the size of a small egg.

One teaspoonful of salt.

One gill of yeast or one yeast cake.

Put the yeast cake to soak, and the potatoes on to boil nearly an hour before it is time to mix the sponge. In mixing the sponge use the milk, the potatoes, and one third of the flour, add the salt and yeast. When adding the remainder of the flour in making the dough, discretion may be used in the amount of the flour. If the dough can be kneaded for ten minutes, and it ceases to stick to the hands, the

whole three pints need not be used, but if, on the contrary, the dough still cleaves to the hands when three pints are used, a little more flour may be required to make the dough stiff enough.

SALERATUS AND BAKING-POWDER.

The bread question is not fully answered until a chapter shall have been added on "Saleratus and Baking-Powder," including under these names the different forms of alkali which with acid is so much used for making biscuits. "Soda biscuits" (as biscuits made with alkali and acid are called) differ from ordinary bread biscuits, in that while the latter are raised with yeast by fermentation, the former are raised with alkali and acid by effervescence. In raising biscuits by fermentation the action is gradual; in raising them by effervescence it is immediate. Still, while the process of making biscuits by these two means is so different, as much care and skill are required

in one case as in the other. This fact seems to have been somewhat overlooked, and "soda biscuits" are to a great extent the refuge of those who do not know how to make good raised bread, and who have given up the attempt to learn.

There can be no reasonable objection to this kind of food occasionally, if properly made. In an emergency, when the supply of bread has given out too soon and more is suddenly required, it is very convenient to prepare biscuits within an hour's notice. Good "soda biscuits," too, make an agreeable variety for the table, provided there is plenty of raised bread for those who prefer it; but as a constant dependence they are undesirable and positively unwholesome.

The various baking-powders which have now almost universally taken the place of "saleratus," and are a very great improvement upon

it, give in their accompanying directions the proper quantity to be used. The same is true of saleratus as purchased in packages.

Cream of tartar and super-carb. of soda are much used for making soda-biscuits, and perhaps there is no better form in which to use acid and alkali for this purpose.

RECEIPT FOR SODA BISCUITS.

One pint of milk (cold).

One quart of flour.

Piece of butter the size of a small egg.

Teaspoonful of salt.

One heaping teaspoonful of super-carb. soda.

Two heaping teaspoonfuls, and one sixth of a teaspoonful more, of cream of tartar.

Sift the flour into a pan or bowl, sift the cream of tartar through it, add the salt and mix well; with the hands rub the butter into the flour. Dissolve the soda in a teaspoonful of *hot* water and add it to the milk; then, gradually add the milk to the flour; first stir, then knead quickly for two or three minutes, till you have a smooth mass of dough; sprinkle a little

flour on the bread-board, roll out the dough, cut the biscuits, put them into the baking-pans which have been previously buttered), and at once put them into a quick oven. Bake from twenty to forty minutes.

Success in making biscuits with alkali and acid depends first upon so proportioning the materials as to secure effervescence, and then upon mixing them quickly, and baking them promptly, while the effervescence is so actively going on as to be accelerated by the heat of the oven, and also upon mixing the ingredients thoroughly. If the alkali is not well dissolved, there will be brown spots in the biscuits. If the acid is not well mixed through, there will be sour spots in the biscuits. If there is too large a proportion of alkali, the biscuits will be yellow and have a medicinal smell. If the proportion of acid is too large, the biscuits will be sour.

XII.—**The Home:** Where it Should Be, and What to Put in it. Containing hints for the selection of a Home, its furniture and internal arrangements, with carefully-prepared price lists of nearly everything needed by a housekeeper, and numerous valuable suggestions for saving money and gaining comfort. By Frank R. Stockton (of *Scribner's Monthly*). 12mo, 182 pages, boards 50

"Young housekeepers will be especially benefited, and all housekeepers may learn much from this book."—*Albany Journal.*

XIII.—**The Mother's Work with Sick Children.** By Prof. J. B. Fonssagrives, M.D. Translated and edited by F. P. Foster, M.D. A volume full of the most practical advice and suggestions for Mothers and Nurses. 12mo, 244 pages, cloth 1 00

"A volume which should be in the hands of every mother in the land."—*Binghamton Herald.*

XIV.—**Manual of Thermometry.** For Mothers, Nurses, Hospitals, etc., and all who have charge of the sick and the young. By Edward Seguin, M.D. 12mo, cloth 75

XV.—**Infant Diet.** By A. Jacobi, M.D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, New York. Revised, enlarged and adapted to popular use by Mary Putnam Jacobi, M.D. 12mo, boards 50

"Dr. Jacobi's rules are admirable in their simplicity and comprehensiveness."—*N. Y. Tribune.*

XVI.—**How to make a Living.** By George Cary Eggleston, author of "How to Educate Yourself." 12mo, boards . . 50

"Shrewd, sound and entertaining."—*N. Y. Tribune.*

"An admirable little treatise, full of sound, practical advice."—*Christian Union.*

XVII.—**Manual of Nursing.** Prepared under the instructions of the New York Training School for Nurses, by Victoria White, M.D., and revised by Mary Putnam Jacobi, M.D. Boards . . 75

"Better adapted to render the nurse a faithful and efficient coöperator with the physician than any work we have seen."—*Home Journal.*

XVIII.—**The Blessed Bees.** An account of practical Bee-keeping, and the author's success in the same. By John Allen. Boards 75

"We commend Mr. Allen's book. * * * It is based on the diction that Bee-keeping by modern methods depends not upon luck, but upon knowledge."—*Richmond Despatch.*

"I scarcely looked up from the volume before I had scanned all its fascinating pages."—Prof. A. T. Cook, in *American Bee Journal*, 1878, p. 422.

XIX.—**The Handy-Book of Quotations.** A Dictionary of Common Poetical Quotations in the English Language. 16mo, boards . 75

"Compact and comprehensive. * * * An invaluable little volume."—*Providence Journal.*

XX.—**From Attic to Cellar.** A Book for Young Housekeepers. By Mrs. OAKEY. 16mo, cloth 75

"An admirable collection of directions and counsels, written by a lady of large experience, in a style of perfect simplicity and great force. * * * I wish it were in the hands of every housekeeper and every domestic in the land."—H. W. BELLOWS, D.D.

XXI.—**Emergencies, and How to Meet Them.** Compiled by BURT G. WILDER, M.D., Prof. of Physiology and Comparative Anatomy in Cornell University. 16mo, sewed 15

"Invaluable instructions, prompt attention to which would often save life or serious disaster."—*Providence Journal.*

XXII.—**The Maintenance of Health.** By J. MILNER FOTHERGILL, M.D. Third and cheaper edition. Octavo, boards $1 25

"The most important book of its kind that has ever been published in this country."—*Christian Union.*

"The most complete summary of this subject of general hygiene that we have ever seen."—*N. Y. Nation.*

XXIII.—**The Art of Cooking.** A series of practical lessons by MATILDA LEES DODS, of the South Kensington School of Cookery. Edited by HENRIETTA DE CONDE SHERMAN. 16mo, cloth extra . . $1 00

"The thoroughness of her preparation for the work which this experience has afforded is seen in the marked success of the experimental lessons that she is now giving. They are so clear and methodical, her manipulation is so deft and easy, and the dishes produced are so excellent, as to win the praise of all who hear her."—*N. Y. Times.*

XXIV.—**Hints for Home Reading.** A series of papers by EDWARD EVERETT HALE, F. B. PERKINS, H. W. BEECHER, CHARLES DUDLEY WARNER, JOSEPH COOK, LYMAN ABBOTT, M. J. SWEETSER, CYRUS HAMLIN, H. W. MABIE, and others. Edited by LYMAN ABBOTT. Together with a new edition of "Suggestions for Libraries," with first, second, and third lists of 500, 1,000, and 2,000 volumes recommended as the most important and desirable. 8vo, cloth, $1 00; boards. 75

"We warmly commend the book for the guidance not only of bookbuyers but readers. Its suggestions are invaluable to both."—*Boston Transcript.*

XXV.—**First Aid to the Injured.** Prepared under the authority of the First Aid to the Injured Society. By PETER SHEPHERD, M.D., and BOWDITCH MORTON, M.D. Square 16mo, cloth extra . . 50

Putnam's Handy-Book Series.

Till the Doctor Comes, and How to Help Him. By GEORGE H. HOPE, M.D. Revised, with A[illegible]

**** A popular guide in all ca[illegible]

16mo, 99 pp., boards, .

"A most admirable treatise, short, *Monthly* (*Editorial.*)

"A perfect [illegible] for the sick-roo[illegible] *Venango Spectator.*

"Indispensable for the household."—*Utica Herald.*

LIBRARY OF CONGRESS
0 014 520 490 2

How to Educate Yourself. A complete guide for Students, showing how to study, what to study, and how and what to read. It is, in short, a "Pocket Schoolmaster." By GEO. CARY EGGLESTON. 16mo, 151 pp., boards, ... 50 cts.

"We write with unqualified enthusiasm about this book, which is untellably good and for good."—*N. Y. Evening Mail.*

"We cordially commend this work."—*N. Y. School Journal.*

How to Make a Living. By GEO. CARY EGGLESTON. Author of "How to Educate Yourself." 16mo, boards, ... 50 cts.

"Shrewd, sound and entertaining."—*N. Y. Tribune.*

"An admirable little treatise, full of sound practical advice."—*Christian Union.*

A Manual of Etiquette. With Hints of Politeness, Good Breeding, etc. By DAISY EYEBRIGHT. One vol., 16mo, boards, 50 cts.

Infant Diet. By A. JACOBI, M.D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, New York. Revised enlarged, and adapted to popular use by MARY PUTNAM JACOBI, M.D. 16mo, boards, ... 50 cts.

"Dr. Jacobi's rules are admirable in their simplicity and comprehensiveness.—*N. Y. Tribune.*

A Manual of Nursing. Prepared under the instructions of the New York Training-School for Nurses, and revised by MARY PUTNAM JACOBI, M.D. 16mo, boards, ... 75 cts.

"Clear, judicious, in every respect admirably."—*Christian Register.*

"Should be in every household."—*Watchman.*

The Blessed Bees. An account of practical Bee-keeping, and the author's success in the same. By O. CLUTE. 16mo, boards, 75 cts.

☞ *For other books of the Series see inside of cover.*